LOUISIANA DEPARTMENT OF WILDLIFE & FISHERIES



OFFICE OF FISHERIES INLAND FISHERIES SECTION

PART VI -A

WATERBODY MANAGEMENT PLAN SERIES

THE BAYOU LACOMBE COMPLEX

LAKE HISTORY & MANAGEMENT ISSUES

CHRONOLOGY

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WATERBODY HISTORY

GENERAL INFORMATION

The Bayou Lacombe complex, located on the northeastern corner of Lake Pontchartrain, is comprised of seven designated water bodies. Four primary bayous (Bayou Lacombe, Cane Bayou, Bayou Liberty and Bayou Bonfouca) make up the bulk of the complex, which drains approximately 154,298 acres (APPENDIX I, Figures 1 and 2). Largemouth bass, bluegill, redear sunfish, longear sunfish, warmouth, crappie, catfish, red drum, black drum, spotted seatrout, sand sea trout, flounder, sheepshead and croaker are targeted by anglers. Furthermore, many people recreationally and commercially fish for blue crab and bait species near the mouth and along the shores of these bayous.

Bayou Lacombe

Bayou Lacombe flows 20 miles through St. Tammany Parish. It originates in Talisheek, LA near the junction of Louisiana Highway 41 and Louisiana Highway 435 and flows southward to Lake Pontchartrain (APPENDIX I, Figure 2.). Aquatic habitat within the bayou varies from shallow sand and gravel riffles in the upper reaches to deep, slow flowing water near the lake. Terrestrial habitats vary from wet pine savannah at the origin to bottomland hardwood, cypress tupelo swamp to fresh and brackish marsh at the mouth of the bayou. The Louisiana Department of Environmental Quality (LDEQ) divides Bayou Lacombe into two sub segments (040901 and 040902). The entire length is designated as a Louisiana Natural and Scenic Stream (Louisiana RS 56:1847). Bayou Lacombe offers fishing opportunity for boaters, kayakers, and bank fishermen.

Cane Bayou

Cane Bayou is located on the western edge of the complex nestled between Fontainebleau State Park and Big Branch National Wildlife Refuge. The bayou stretches approximately 5.75 miles through St. Tammany Parish and resembles Bayou Lacombe's aquatic and terrestrial habitats (APPENDIX I, Figure 2.). The Louisiana Department of Environmental Quality (LDEQ) divides Cane Bayou into two sub segments (040903 and 040904). The entire length is designated as a Louisiana Natural and Scenic Stream

Bayou Liberty

Bayou Liberty is located on the eastern end of the complex with portions within the town of Slidell. The bayou stretches approximately 14.75 miles through St. Tammany Parish and resembles Bayou Lacombe's aquatic and terrestrial habitats (APPENDIX I, Figure 2). The Louisiana Department of Environmental Quality (LDEQ) divides Bayou Liberty into two sub segments (040905 and 040906). The entire length is designated as a Louisiana Natural and Scenic Stream

Bayou Bonfouca

Bayou Bonfouca is located on the eastern edge of the complex with portions within the town of Slidell. The bayou stretches approximately 10.5 miles through St. Tammany Parish and resembles Bayou Lacombe's aquatic and terrestrial habitats (APPENDIX I, Figure 2.). The Louisiana Department of Environmental Quality (LDEQ) divides Bayou Bonfouca into two sub segments (040907 and 040908).

Watershed

The Bayou Lacombe Complex drains approximately 154,298 acres of land.

Parishes Located

The Bayou Lacombe Complex is located in St. Tammany Parish in southeastern Louisiana.

Border Waters

The Bayou Lacombe Complex is bordered on the west by Fontainebleau State Park, on the east by the town of Slidell, and on the south by Lake Pontchartrain.

Water Authority

The Louisiana Department of Natural Resources (LDNR) has authority over all surface water withdrawals for commercial purposes as per the Surface Water Management Act - La. R S 30:961-963 (Act 955 of the 2010 legislative session).

http://dnr.louisiana.gov/index.cfm?md=pagebuilder&tmp=home&pid=92

Authorization

The State of Louisiana has authority of the state owned water bottom and regulates the fisheries of the Bayou Lacombe Complex. Bayou Lacombe, Cane Bayou, and Bayou Liberty are designated as natural scenic streams by LA. RS 56:1856: known as "The Louisiana Scenic Rivers Act". The laws governing Natural and Scenic River Systems regulate some land practices along the bayou and also protect it from hydrologic alterations.

Associations

There are currently no known waterbody commissions or authorities associated with the Bayou Lacombe Complex. The Lake Pontchartrain Basin Foundation (LPBF) actively participates in a water quality task force. This task force monitors water quality in the Complex and throughout the Lake Pontchartrain Basin. For more information on LPBF activities please visit their website at: http://www.saveourlake.org/

ACCESS

The bayous within the Bayou Lacombe Complex are accessible from Lake Pontchartrain and six boat launches. There are two Wallop-Breaux sponsored boat launches located at Main St. in Lacombe and Heritage Park on Bayou Bonfouca. The United States Fish and Wildlife Service (USFWS) owns and maintains a launch near the mouth of the bayou on Lake Rd. in Lacombe, LA.

Boat docks and launches

There are small boat docks located at the boat launches at Main St. in Lacombe, LA and the USFWS launch on Lake Rd. in Lacombe, LA (<u>APPENDIX II</u>, Figure 1.). There are six boat launches located in the complex (Table 1.).

Table 1. Boat launches located in the Bayou Lacombe Complex.

LAUNCHES	LATITUDE	LONGITUDE
Bayou Cane Launch	30.337451	-90.004105
Lacombe Main Street Launch *	30.309177	-89.929396
Lacombe Lake Road Launch	30.268423	-89.955927
Liberty Elks Lodge (Private Launch)	30.292919	-89.827247
St. Genevieve Church (Private		
Launch)	30.268376	-89.844808
Heritage Park Bayou Bonfouca *	30.278384	-89.783538

^{*}Wallop-Breaux sponsored boat launch

Piers

There is a small pier at the USFWS launch on Lake Rd. in Lacombe, LA.

State/Federal facilities

The Louisiana Department of Wildlife and Fisheries (LDWF) owns and manages the Huey P. Long Fish Hatchery located on Fish Hatchery Road in Lacombe, LA. The hatchery is adjacent to the west bank of Bayou Lacombe. The USFWS Big Branch National Wildlife Refuge (Big Branch NWR) field office is located on the east bank of Bayou Lacombe in Lacombe, LA. The Fontainebleau State Park in Mandeville is a 2,800-acre park located on the shore of Lake Pontchartrain and the west bank of Cane Bayou.

SHORELINE DEVELOPMENT

State/National Parks

Bayou Lacombe flows through Big Branch NWR. The USFWS estimated 49,300 people visited the refuge in 2005 (USFWS 2007).

Fontainebleau State Park in Mandeville is located on the shore of Lake Pontchartrain and the west bank of Cane Bayou.

Shoreline development by landowners

The lower reaches of Bayou Lacombe (excluding Big Branch NWR), Bayou Liberty, and Bayou Bonfouca are congested with residential development. Furthermore, manmade canals and natural bayous connected to the bayou have been developed for waterfront residences. (APPENDIX III, Figures 1 & 2).

PHYSICAL DESCRIPTION

Shoreline length

Approximately 102.5 miles for both, ascending and descending shorelines.

<u>Timber / Vegetation Type</u>

Shoreline vegetation transitions from upland pine and hardwood mix to cypress and tupelo to bull tongue and rushes to Spartina in the brackish reaches near Lake Pontchartrain. Submerged aquatic vegetation (SAV) in the bayou consists of coontail, widgeon grass, naiad and eelgrass. However, SAV is not static. Fluctuations in location, density and species composition are affected by increased salinities from hurricanes and tropical storms. Algae blooms and competition from epiphytic algae also affect the density and composition of SAV.

Natural seasonal water fluctuation

The Bayou Lacombe Complex drains approximately 154,298 acres of land area. Local rainfall can greatly affect water levels. Also, high tides in Lake Pontchartrain can completely stop the downstream flow of the bayou. The USGS stream level gauge in Bayou Lacombe near US Hwy 190 is currently not providing data.

EVENTS / PROBLEMS

Van Vrancken (2007) documented the disappearance of *Cyprinella venusta* (Blacktail shiner) in Bayou Lacombe over the last 35 years. He attributed the decline to natural and anthropogenic influences. In recent surveys, LDWF has located the blacktail shiner at one site within the complex. Therefore, *C. venusta* may exist in low numbers but is not extirpated from the system. Van Vrancken's study compared fish assemblages with those described in Sobczak (1976). The 2016 fish assemblage survey conducted by LDWF can also be compared to these studies. Hurricanes Katrina in 2005 and Gustav in 2008 were reported to have caused fish kills in the Bayou Lacombe Complex. However, no official investigations or quantitative estimates were conducted by LDWF. Silver carp achieved access to Bayou Lacombe via the Bonnet Carré Spillway opening in 2011. In 2013, giant salvinia was found in small quantities in Bayou Lacombe; this invasive has spread throughout Bayou Lacombe and is now present on Cane Bayou, Bayou Liberty, and Bayou Bonfouca.

Aquatic Vegetation

Giant salvinia is now present in the entire Bayou Lacombe Complex.

MANAGEMENT ISSUES

AQUATIC VEGETATION

Type map

LDWF has not compiled a typemap for the Bayou Lacombe Complex.

Biomass

No biomass sampling has been conducted.

Treatment history by year available

Primrose, alligator weed and giant salvinia have been the primary focus of nuisance aquatic plant control in residential areas of the complex. In May 2013, giant salvinia was found in Bayou Lacombe. Less than 0.5 acres of plant material was found in a small manmade canal. The canal was boomed off in an attempt to isolate the infestation. Unfortunately, the plant had already spread to areas in the surrounding canals and marsh. Small giant salvinia plants are often hidden among emergent plants like torpedo grass and alligator weed. This can obscure the plant from herbicide applications. Giant salvinia biomass has increased significantly each consecutive year since 2013. Based on aquatic vegetation surveys conducted in the fall of 2016, giant salvinia continues to spread in the Bayou Lacombe Complex, extending north of Hwy 190. Throughout the complex, there is approximately 500 acres of giant salvinia, 100 acres of alligator weed, and 100 acres of primrose. Since 2013, 1,424 acres of aquatic vegetation have been treated (Table 1). **APPENDIX IV**.

<u>Biological</u> – In years 2015 and 2016, 8,100 individual giant salvinia weevils were stocked into Bayou Lacombe.

<u>Chemical</u> – Herbicide applications have been made from boat mounted sprayers when necessary. Since 2013, 1,424 acres of aquatic vegetation have been treated (Table 2.). A total of 220 acres of giant salvinia were treated by LDWF in the Complex in 2016. Herbicides were used in accordance with the approved Aquatic Herbicide Application Standard Operating Procedure Manual:

April 1 - October 31: glyphosate (0.75 gal/acre) / diquat (0.25 gal/acre) / Turbulence (0.25 gal/acre).

November 1 – March 31: diquat (0.75 gal/acre) / 90:10 non-ionic surfactant (0.25 gal/acre).

Table 2. Acres of vegetation treated annually from 2013-2016 in the Bayou Lacombe Complex.

Year	Waterbody	Vegetation	Acres
2013	Bayou Lacombe	Salvinia, Giant	1

	2013	Bayou Lacombe	Salvinia, Giant	3
Total 2013		·		4
	2013	Bayou Cane	Alligator weed	6
Total 2013		Ž		6
	2014	Bayou Lacombe	Alligator weed	1.14
	2014	Bayou Lacombe	Primrose	0.49
	2014	Bayou Lacombe	Salvinia, Giant	76.39
	2014	Bayou Lacombe	Torpedo Grass	1.38
Total 2014		ž	•	79.4
	2014	Bayou Liberty	Alligator weed	69.12
	2014	Bayou Liberty	Primrose	49.16
Total 2014		· ·		118.28
	2014	Bayou Bonfouca	Alligator weed	12.43
	2014	Bayou Bonfouca	Duckweed	9.25
	2014	Bayou Bonfouca	Paragrass	9.6
	2014	Bayou Bonfouca	Primrose	9.8
	2014	Bayou Bonfouca	Torpedo Grass	1.19
Total 2014		·	•	42.27
	2014	Bayou Cane	Alligator weed	1.25
	2014	Bayou Cane	Primrose	0.13
	2014	Bayou Cane	Torpedo Grass	0.38
Total 2014				1.76
	2015	Bayou Lacombe	Alligator weed	37.32
	2015	Bayou Lacombe	Duckweed	1.00
	2015	Bayou Lacombe	Primrose	6.67
	2015	Bayou Lacombe	Salvinia, Common	4.00
	2015	Bayou Lacombe	Salvinia, Giant	351.36
	2015	Bayou Lacombe	Torpedo Grass	2.0
Total 2015		-		402.33
	2015	Bayou Liberty	Alligator weed	22.92
	2015	Bayou Liberty	Duckweed	11.62
	2015	Bayou Liberty	Primrose	17.53
	2015	Bayou Liberty	Salvinia, Common	8.30
	2015	Bayou Liberty	Water Hyacinth	0.83
Total 2015				61.20
	2015	Bayou Bonfouca	Alligator weed	50.04
	2015	Bayou Bonfouca	Duckweed	57.5
	2015	Bayou Bonfouca	Primrose	22
	2015	Bayou Bonfouca	Water Lettuce	2.4
	2015	Bayou Bonfouca	Southern Naiad	2.8
Total 2015				134.74

<u> </u>	2015	Bayou Cane	Alligator weed	0.75
	2015	Bayou Cane	Primrose	0.75
	2015	Bayou Cane	Salvinia, Common	0.6
	2015	Bayou Cane	Torpedo Grass	0.9
Total 2015				3.00
	2016	Bayou Lacombe	Southern Naiad	2
	2016	Bayou Lacombe	Alligator weed	8.5
	2016	Bayou Lacombe	Duckweed	0.25
	2016	Bayou Lacombe	Primrose	3.25
	2016	Bayou Lacombe	Salvinia, Giant	205
	2016	Bayou Lacombe	Torpedo Grass	0.5
	2016	Bayou Lacombe	Water Hyacinth	8
Total 2016				227.5
	2016	Bayou Cane	Alligator weed	6
	2016	Bayou Cane	Salvinia, Giant	14
Total 2016				20
	2016	Bayou Liberty	Alligator weed	26.5
	2016	Bayou Liberty	Duckweed	2
	2016	Bayou Liberty	Primrose	42
	2016	Bayou Liberty	Salvinia, Common	13
	2016	Bayou Liberty	Salvinia, Giant	1
	2016	Bayou Liberty	Torpedo Grass	1.5
	2016	Bayou Liberty	Water Hyacinth	13
Total 2016				99
	2016	Bayou Liberty	Alligator weed	25.5
	2016	Bayou Liberty	Duckweed	2
	2016	Bayou Liberty	Primrose	57
	2016	Bayou Liberty	Salvinia, Common	31
	2016	Bayou Liberty	Torpedo Grass	13
	2016	Bayou Liberty	Water Hyacinth	84
		Daniel I ileante	Water Lettres	12
	2016	Bayou Liberty	Water Lettuce	12

HISTORY OF REGULATIONS

Recreational

Statewide regulations for recreational fresh and saltwater species apply. Recreational fishing regulations for 2017 may be viewed at the link below: http://www.wlf.louisiana.gov/regulations

Commercial

Statewide regulations for commercial fresh and saltwater species apply. Commercial fishing regulations for 2013 may be viewed at the link below: http://www.wlf.louisiana.gov/regulations

FISH KILLS / DISEASE HISTORY

Naturally occurring kills of Gulf menhaden are common from August through October. Large schools of menhaden enter the bayou from Lake Pontchartrain. Overnight, dissolved oxygen (DO) concentrations sometimes plummet and menhaden succumb to anoxia. Typically, DO concentrations return to normal during the subsequent daylight hours. Tropical storms, hurricanes and other high tide events are also responsible for fish kills. Van Vrancken (2007) found significant differences in the fish assemblages of Bayou Lacombe following Hurricane Katrina in 2005. Sampling has not been conducted to determine presence of Largemouth Bass Virus (LMBV).

CONTAMINANTS / POLLUTION

Water quality

LDEQ sub segment 040901 does not support fish and wildlife propagation. However, outstanding natural resource and primary and secondary contact recreation uses are fully supported. Fish in this sub segment have been tested for mercury but levels were not found to be a cause for concern.

LDEQ sub segment 040902 does not support fish and wildlife propagation and primary contact recreation uses. Outstanding natural resource and secondary contact recreation uses are fully supported. Fish in this sub segment have been tested for mercury contamination, and results indicate further testing is needed. There is no advisory in the area at this time. Information for Bayou Lacombe water quality can be found by visiting the following Environmental Protection Agency (EPA) web links:

Bayou Lacombe: Headwaters to US 190:

http://iaspub.epa.gov/tmdl_waters10/attains_waterbody.control?p_list_id=LA040901_00&p_cycle=2010&p_report_type

Bayou Lacombe US 190 to Lake Pontchartrain:

http://iaspub.epa.gov/tmdl_waters10/attains_waterbody.control?p_list_id=LA040902_00&p_cycle=2010&p_report_type

BIOLOGICAL

Historic Fish samples

Inland Fisheries standardized electrofishing samples for largemouth bass (LMB) and crappie

are collected from navigable areas of Bayou Lacombe (090401 and 090402). Twenty-nine standardized electrofishing samples for largemouth bass (LMB) and seven forage samples have been taken since 1996 (Table 3). No samples were taken in years 1997-2005, 2008, 2010, and 2011.

Note: All standardized sampling data collected by Inland Fisheries from 1965 through present are computerized. Any data prior to 1965 in the form of paper documents or reports are listed below.

Table 3. Sampling efforts for Bayou Lacombe, LA from 1996 – 2015.

•	BAYOU LACOMBE SAMPLING		
1996	Electrofishing – 2 stations (spring)		
1770	Electrofishing – 4 stations (fall)		
2006	Electrofishing – 7 stations (spring)		
2000	Electrofishing – 4 stations (fall)		
	Electrofishing – 2 stations (spring)		
2007	Electrofishing – 6 stations (fall)		
	Forage (EF) - 6 stations (fall)		
	Electrofishing – 2 stations (spring)		
2009	Electrofishing – 2 stations (fall)		
	Forage (EF) - 1 stations (fall)		
	Electrofishing – 5 stations (spring)		
2012	Electrofishing – 5 stations (fall)		
	Forage (EF) - 3 stations (fall)		
2013	Electrofishing – 4 stations (spring)		
2013			
2014	No fisheries samples scheduled.		
2015	No fisheries samples scheduled.		

Current Sampling Objectives

Standardized electrofishing sampling will be enhanced by expanding the range and number of fish surveys. Understanding river basin biotic assemblages is an important aspect of fisheries management. Changes in community structure of aquatic biota in river systems, including their many tributaries within the water shed, are indicators of anthropogenic and natural disturbances. Fish communities are sensitive to a wide array of direct and indirect stresses, including the effects of point source and non-point source pollution, sedimentation and changes in substrate deposition, habitat loss, riparian zone disruption, physicochemical changes in

water chemistry and flow modification (Fausch et al. 1990). Fishes occupy positions throughout the aquatic food web and share a unique relationship. LDWF will analyze species composition of fish in the watershed, as well as sportfish parameters on the lower reaches of the Bayou Lacombe complex.

Fish Assemblage and Sportfish

All fish samples will be performed according to the standards outlined in the Office of Fisheries Inland Fisheries Section Standard Operating Procedures for Conducting Biomonitoring of Fish and Mussel Communities in Rivers and Wadeable Streams. Samples will consist of 22 fish samples (Table 4). Fish sample sites will contain historic as well as new sites (Tables 5 & 6, and APPENDIX IV, Figures 1 & 2).

Table 4. LDWF current and scheduled biological sampling, Bayou Lacombe Complex 2016-2024*.

Year	2016	2020	2024
Boat Electrofishing	14 – 15 minute samples	14 – 15 minute samples	14 – 15 minute samples
Backpack Electrofish	8 – 150 meters to a maximum of 300 meters sample	8 – 150 meters to a maximum of 300 meters sample	8 – 150 meters to a maximum of 300 meters sample

Table 5. LDWF boat electrofishing sample sites for the Bayou Lacombe Complex 2016-2024.

Station Code	Latitude	Longitude
4071	30.2890	-89.9579
4072	30.2812	-89.9490
4073	30.2895	-89.9309
4075	30.3097	-89.9272
4067	30.3219	-89.9421
4262	30.3450	-89.9342
4269	30.3265	-90.0149
4270	30.3352	-90.0060
4077	30.2636	-89.8575
4079	30.2927	-89.8269
4271	30.3078	-89.8337
4195	30.2573	-89.7983
4082	30.2784	-89.7838
4274	30.2928	-89.7894

Table 6. LDWF backpack electrofishing sample sites for the Bayou Lacombe Complex 2016-2024.

Station Code	Latitude	Longitude
4263	30.4472	-89.8340
4264	30.4380	-89.8404
4265	30.4377	-89.8521
4266	30.4216	-89.8579
4267	30.3934	-89.8947
4268	30.3656	-89.9224
4272	30.3360	-89.8409
4273	30.3505	-89.8463

Stocking History

The Huey P. Long Fish Hatchery is adjacent to Bayou Lacombe and has been in operation since 1931. Over time, several species of fish have no doubt made their way into the bayou. However, recent records indicate only 3,486 Florida largemouth bass (FLMB) have been stocked by LDWF since 2005 (Table 7).

Table 7. LDWF stocking history for Bayou Lacombe 2005-2013.

Year	Species	Number Stocked
2005	Florida largemouth bass	1,000
2006	Florida largemouth bass	2,230
2008	Florida largemouth bass	256
Total		3,486

Species profile

Compiled by Van Vrancken (2007) and LDWF standardized electrofishing results, a list of fish species found in the Bayou Lacombe Complex is listed in Table 8.

Table 8. Fish species list for Bayou Lacombe, Louisiana

Scientific Name	Common Name
Atractosteus spatula	Alligator gar
Lepisosteus oculatus	Spotted gar
Lepisosteus osseus	Longnose gar
Amia calva	Bowfin
Anguilla rostrata	American eel
Brevoortia patronus	Gulf menhaden
Dorosoma cepedianum	Gizzard shad
Dorosoma petenense	Threadfin shad
Esox americanus	Grass pickerel

Notemigonus crysoleucas	Golden shiner
Notropis texanus	Weed shiner
Minytrema melanops	Spotted sucker
Erimyzon sucetta	Lake chubsucker
Erimyzon tenuis	Sharpfin chubsucker
Ictalurus furcatus	Blue catfish
Ameiurus natalis	Yellow bullhead
Ameiurus nebulosus	Brown bullhead
Ameiurus melas	Black bullhead
Aphredoderus sayanus	Pirate perch
Fundulus chrysotus	Golden topminnow
Fundulus nottii	Bayou topminnow
Fundulus grandis	Gulf killifish
Lucania parva	Rainwater killifish
Gambusia affinis	Mosquitofish
Heterandria formosa	Least killifish
Labidesthes sicculus	Brook silverside
Menidia beryllina	Inland silverside
Elassoma zonatum	Banded pygmy sunfish
Centrarchus macropterus	Flier
Pomoxis nigromaculatus	Black crappie
Micropterus salmoides	Largemouth bass
Lepomis gulosus	Warmouth
Lepomis megalotis	Longear sunfish
Lepomis symmetricus	Bantam sunfish
Lepomis miniatus	Red spotted sunfish
Lepomis macrochirus	Bluegill sunfish
Lepomis microlophus	Redear sunfish
Lepomis marginatus	Dollar sunfish
Etheostoma parvipinne	Goldstripe darter
Mugil cephalus	Striped mullet
Trinectes maculates	Hogchocker

Genetics

Florida largemouth bass have been introduced to the Bayou Lacombe Complex. However, no genetic sampling has been conducted to confirm the presence / absence of Florida influence.

Threatened/endangered/exotic species

The following are species of conservation concern in the Pontchartrain Basin which includes the Bayou Lacombe Complex: Gulf sturgeon (*Acipenser oxyrinchus desotoi*), paddlefish (*Polyodon spathula*), flagfin shiner (*Pteronotropis signipinnis*), river redhorse (*Moxostoma carinatum*), and the Gulf logperch (*Percina suttkusi*; (Lester et al. 2005). Silver carp gained access to the Complex via the Bonnet Carré Spillway opening in 2011. As of 2017, the highly invasive apple snail (*Pomacea maculata*) is present throughout the Complex.

CREEL SURVEYS

Historic information

LDWF has not conducted a creel survey of the Bayou Lacombe Complex.

HYDROLOGICAL CHANGES

Some dredging occurred in the upper reach of Bayou Lacombe for drainage purposes during the 1950's. Activities are currently regulated through the Natural and Scenic Rivers Act (Louisiana RS 56:1840-1855).

WATER USE

Hunting

The Bayou Lacombe Complex provides access to Big Branch NWR and private property. The refuge and surrounding private marshes are popular for duck, whitetail deer (archery only), and wild hog hunting.

Skiing

The lower reach of Bayou Lacombe is popular for boating. However, several "no wake" ordinances are in effect.

Scuba Diving

The Bayou Lacombe Complex has low water clarity and is not popular for diving.

Swimming

Swimming from private residences is not uncommon.

Irrigation

Water withdrawals are prohibited, except for withdrawals made by an individual, adjacent property owner for residential purposes only (LAC Title 76: Part IX 117)

References

Lester, Gary D., S. G. Sorensen, P. L. Faulkner, C. S. Reid, and I. E. Maxit. 2005. Louisiana Comprehensive Wildlife Conservation Strategy. Louisiana Department of Wildlife and Fisheries. Baton Rouge. 455 pp.

Sobczak, M. T. 1976. Physical and chemical factors affecting the distribution and occurrence of

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Van Vrancken, Jeffrey M. 2007. "Short and Long-term Changes in the Fish Assemblages of Bayou Lacombe, Louisiana". *University of New Orleans Theses and Dissertations*. Paper 620 pp.

APPENDIX I

(return to general)

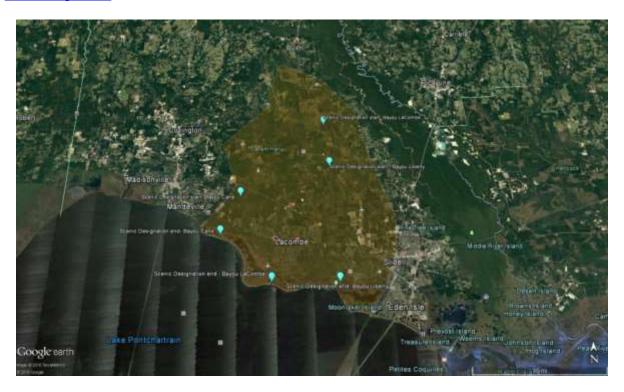


Figure 1. The Bayou Lacombe Complex drainage is comprised of seven designated water bodies draining approximately 154,298 acres in southeast Louisiana.

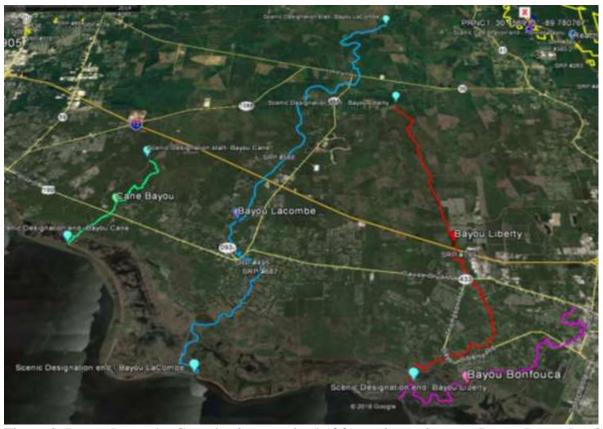


Figure 2. Bayou Lacombe Complex is comprised of four primary bayous, Bayou Lacombe, Cane Bayou, Bayou Liberty and Bayou Bonfouca. in southeast Louisiana.

APPENDIX II

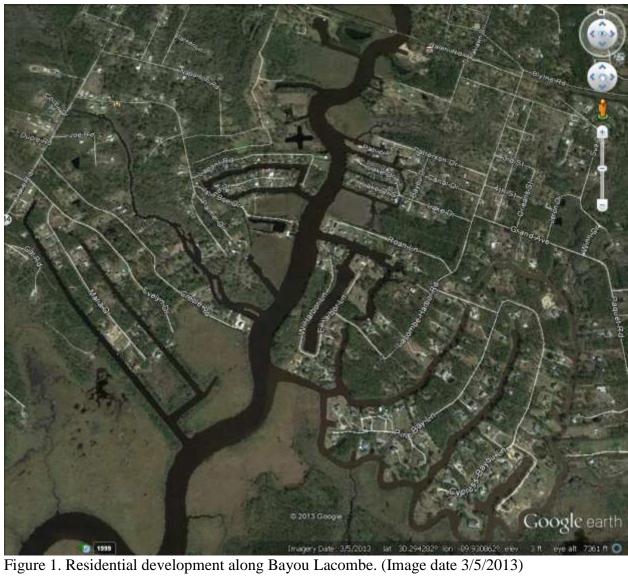
(return to boat docks)



Figure 1. Public access boat launches in the Bayou Lacombe Complex.

APPENDIX III

(return to shoreline development)



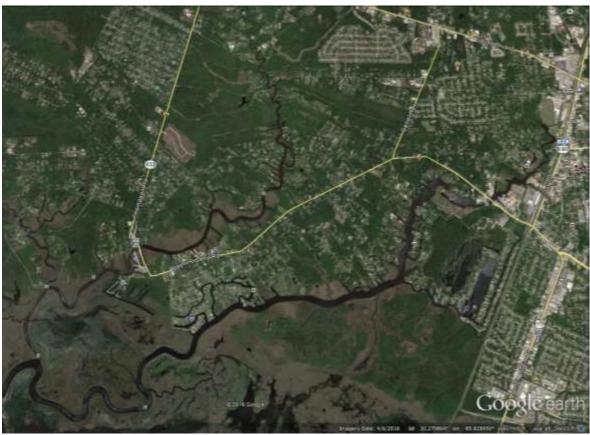


Figure 2. Residential development along Bayou Liberty and Bayou Bonfouca.

APPENDIX IV

(return to treatment)



Figure 1. Sample sites for the western portion of the Bayou Lacombe Complex.



Figure 2. Sample sites for the eastern portion of the Bayou Lacombe Complex.